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EXAMINER

TRAN, NHAN T

ART UNIT

PAPER NUMBER

2622

NOTIFICATION DATE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 35-39, 45-51 have been considered but are moot in view of the new ground of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 35-39, 45, 46, 50 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (US 7,084,919) in view of Matsuyama (US 5,615,398).

Regarding claim 50, Shibata discloses a folding-type mobile communication terminal (foldable camera phone shown in Figs. 1-11 and abstract), comprising:

an upper body (20) comprising a display (21 in Fig. 1 and col. 9, lines 60-63);

a lower body (10) comprising a front side (the side where keypads are located as shown in Fig. 9) and a rear side (Figs. 3 & 7);

at least one terminal manipulation device (at least *zoom switch 11* in Figs. 3 & 9; col. 10, lines 4-20);

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a hinge (31 in Figs. 1 & 3) configured to connect the lower body with the upper body at an upper end portion of the lower body and a lower end portion of the upper body (see Figs. 3 & 16), wherein the hinge is located at one lateral end portion of the end portion of the lower body (col. 9, lines 64-65);

a photographing apparatus coupled to the lateral side of the hinge and having manual zoom focusing capabilities (i.e., zooming by operating button 11; see Figs. 2, 3 & 11; col. 10, lines 4-6 and col. 11, lines 66-67), the photographing apparatus comprising: a controlling unit (51 in Fig. 13).

Shibata does not explicitly disclose that an image sensor for automatic zoom focusing, the image sensor detecting a subject and measuring a distance between the subject and the photographic apparatus; a lens positionable relative to the image sensor; and a positioning mechanism providing optical zooming, the positioning mechanism operated by the controlling unit when the controlling unit receives a signal for the optical zooming, wherein the signal is generated by the image sensor **or** in response to user manipulation of the at least one terminal manipulation device.

However, it is well recognized by Matsuyama that an imaging apparatus can be implemented with automatic optical zooming capability using an image sensor (10) positioned relative to imaging lens (Fig. 1) for detecting an object and measuring a distance between the subject and the apparatus, and further driving the zoom lens (1) by a zoom motor (15) under control of microcomputer (13) in response to the signal generated by the image sensor (10) (see Matsuyama, Figs. 1, 11 & 12; col. 1, lines 11-21; col. 2, line 63 - col. 3, line 16 and col. 5, lines 21-49). Such automatic zoom function

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is advantageous in that the main object and its size are obtained at high degree of definition so as to obtain optimum visual field *or* keeping photographic magnification between the object and camera unchanged as disclosed in col. 1, lines 11-18 and col. 5, lines 46-49.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the apparatus in Shibata in view of Matsuyama to implement an image sensor for automatic zoom focusing, the image sensor detecting a subject and measuring a distance between the subject and the photographic apparatus, a lens positionable relative to the image sensor, and a positioning mechanism providing optical zooming, the positioning mechanism operated by the controlling unit when the controlling unit receives a signal for the optical zooming, wherein the signal is generated by the image sensor **or** in response to user manipulation of the at least one terminal manipulation device. Doing this would be advantageous in that the main object and its size are obtained at high degree of definition so as to obtain optimum visual field or keeping photographic magnification between the object and camera unchanged as taught by Matsuyama above.

Regarding claim 51, the subject matter of this claim is also met by the analysis of claim 50, wherein a controlling unit is the microcomputer (13 in Matsuyama and/or 51 in Shibata) that compares the distance measured by the image sensor with a preset optimum distance (to maintain an optimum distance between the object and camera)

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and automatically performing optimal zooming according to a comparison result (see Figs. 6-12 of Matsuyama and col. 3, line 44 – col. 5, line 49).

Regarding claim 35, the subject matter of this claim is also met by the analysis of claim 50, where "a camera" is positioned behind the lens (33 in Shibata) and the terminal can be operated by manual zoom using zoom button 11 (Shibata, Fig. 3 and col. 11, lines 66-67) in addition to the automatic zoom function as discussed in claim 50.

Regarding claim 36, it is also seen in Shibata that the photographing apparatus is positioned to face outward from the lateral side of the hinge (Fig. 3).

Regarding claim 37, Shibata discloses the terminal manipulation device which is located on the front side of the lower body (see Fig. 9, wherein at least the mode switch 16 and keypads 17 are located on the front side of the lower body 10).

Regarding claim 38, Shibata also discloses that the terminal manipulation device (operation dial 34 in Fig. 3) positioned on the hinge.

Regarding claim 39, as clearly seen in Fig. 9 of Shibata, an input device (keypads 17) is located on the front side of the lower body.

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Regarding claim 45, although Shibata does not explicitly disclose that the terminal manipulation device is located on at least one lateral surface of the upper body, Shibata suggests that various changes and modification may be made to the disclosed embodiments without departing from the scope of the invention (see Shibata, col. 15, lines 8-18). An Official Notice is taken that it is well known in the art to provide additional zoom button on the lateral surface of the upper body adjacent to the display screen of an imaging apparatus in an alternative configuration to enhance user convenience. Therefore, it would have been obvious to one of ordinary skill in the art to provide the terminal manipulation device on at least one lateral surface of the upper body so as to allow the user to use the left hand or right hand for zooming, thereby enhancing user convenience.

Regarding claim 46, Shibata in view of Yoshida also discloses that the terminal manipulation device (34, 11 in Fig. 3 of Shibata) is located at least one lateral surface of the lower body.

4. Claims 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. and Matsuyama and in further view of Ueda (US 4,847,647).

Regarding claim 49, although the combined teaching of Shibata and Matsuyama teaches an optical zoom mechanism having a motor and a driving mechanism as discussed in claim 35 (see Yoshida, col. 7, lines 26-34), Shibata and Matsuyama are

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just silent about that details of the driving mechanism comprising: a rack having grooves; a pinion having teeth that meshes with the grooves; and a drive shaft, which is operatively connected to the motor, for rotating the pinion.

However, it is old and well known in the art to use a rack having grooves to gear with a pinion which is operatively connected to a motor for rotating the pinion so as to move the zoom lens as taught by Ueda, Figs. 1 & 4 and col. 2, lines 43-62.

Therefore, it would have been obvious to one of ordinary skill in the art to make the zoom driving mechanism for driving the zoom lens in the camera phone in the conventional fashion with simple components in view of teaching of Ueda for reducing size and cost of the device.

Regarding claims 47 & 48, these claims are also met by the analysis of claim 49.

Allowable Subject Matter

5. Claims 25-28 are allowed.

The reason for allowance can be found in the Office Action mailed 7/6/2007.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NHAN T. TRAN whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NHAN T TRAN/
Primary Examiner, Art Unit 2622